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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,257	10/05/2004	Kevin R. Boyle	GB 020036	8741
65913	7590	10/09/2007		
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER PHAN, TRI H	
			ART UNIT 2616	PAPER NUMBER
			NOTIFICATION DATE 10/09/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

## Office Action Summary

Application No.

10/510,257

Applicant(s)

BOYLE, KEVIN R.

Examiner

Tri H. Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Communication(s)***

1. This office action is in response to the Application filed on October 5<sup>th</sup>, 2004. Claims 1-12 are now pending in the application.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

3. The drawings are objected to because all blocks in Figures 1-5 should be labeled with descriptive legends based on 37 C.F.R. § 1.84(o) for supporting the objection in the Rules and M.P.E.P. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1-5 and 8-11 are rejected under 35 U.S.C. 102(e) as being anticipated by **Phillips et al.** (U.S.4,672,685; hereinafter refer as '**Phillips**').

- In regard to claims 1 and 8, **Phillips** discloses *a wireless terminal for use in the transmitting and receiving frequency bands of a frequency duplex system* ('portable two-way radio 10'; for example see fig. 1), *comprising transmitting and receiving stages and signal propagating means coupled to the transmitting and receiving stages* (for example see fig. 3; wherein elements 30-48 are "transmitting and receiving stages" and elements 64-70 or elements in fig. 2 are "signal propagating means", or "module" as claimed in claimed invention 8), *wherein the signal propagating means comprises an antenna structure* (for example see fig. 2) *having sufficient bandwidth to cover the larger one of the transmitting and receiving frequency bands* (for example see figs. 2-3; col. 3, line 6 through col. 4, line 35; wherein the antenna structure as disclosed in fig. 2 provides means for supporting transmitting and receiving range of frequencies as disclosed in col. 1, line 42 through col. 2, line 5), *a receiving filter* ('receiver filter 68' in fig. 3) *and a transmitting filter* ('transmit filter 70' in fig. 3) *coupled by respective feeds to the antenna structure* (see fig. 2).

- Regarding claims 2 and 9, **Phillips** further discloses that the antenna structure comprises a *Planar Inverted-F Antenna 'PIFA'* (for example see fig. 2; wherein the antenna structure, as disclosed in fig. 2, is an internal antenna mounting on the printed circuit board, e.g. "PIFA", located at the bottom 20 of radio 10).

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- In regard to claims 3-5 and 10-11, **Phillips** further discloses that the antenna structure (for example see fig. 2) provide radiant elements in balance mode with same size and shape, e.g. “*differential slots*”; wherein the board 24 is the “*central element*” connected to plate 22, e.g. “*ground plane*”, and two metal rods 40 and 42 are “*two outer elements*” connected to transmitter and receiver bandpass filter as disclosed in figs. 2-3; col. 1, line 42 through col. 2, line 5.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Phillips et al.** (U.S.4,672,685) in view of **Boyle, Kevin R.** (U.S.6,624,788; hereinafter refer as ‘**Boyle**’).

- In regard to claim 6, **Phillips** discloses a portable two-way radio with radiant elements in balance mode in frequencies as discussed in part 5 above of this office action. **Phillips** fails to explicitly disclose, wherein the “*differential slots are asymmetric*”. However, such implementation is well known in the art.

For example, **Boyle** discloses a planar inverted-F 3 antenna arrangement, wherein the slots are arranged in an asymmetric arrangement on the patch conductor (for example see col. 1, lines 42-50).

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Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to implement the slots arrangement as taught by **Boyle** into **Phillips's** antenna structure, with the motivation being to improve the resistive impedance as disclosed in **Boyle**: col. 1, lines 50-52.

8. Claims 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Phillips et al.** (U.S.4,672,685) in view of **Ellä, Juha** (U.S.6,278,342; hereinafter refer as '**Ellä**').

- In regard to claims 7 and 12, **Phillips** discloses a portable two-way radio where transmitting and receiving filters are used for filtering unwanted frequencies at each input; but fails to explicitly disclosed about "*bulk acoustic wave or BAW*" filter. However, BAW filter is well known in the art of radio frequency 'RF' filter structures

For example, **Ellä** discloses a balanced filter structure in radio frequency, which utilizes bulk acoustic wave filter (for example see Abstract; fig. 8).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to implement the bulk acoustic wave filter as taught by **Ellä** into **Phillips's** filters, with the motivation being to provide a filter with improve frequency characteristics as disclosed in **Ellä**: col. 4, lines 8-12.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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**Brandt, Per-Olof** (U.S.6,332,071), **Nguyen et al.** (U.S.6,664,931) and **Rasinger et al.** (U.S.5,365,246) are all cited to show devices and methods for improving transmitter and receiver antennas of portable radio communication architectures, which are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (571) 272-3179.

**Any response to this action should be mailed to:**

**Commissioner of Patents and Trademarks**

Washington, D.C. 20231

**or faxed to:**

**(571) 273-8300**

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tri H. Phan  
September 28, 2007

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER

10/11/07